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ABSTRACT

This study examines the relationship between locus of control and subsequent unemployment experience for a national probability sample of teenagers. Using multiple regression analysis to control for a variety of individual differences, the influence of "internal-external" attitudes held as a teenager on subsequent unemployment experience in the adult labor market is determined. The internal attitude is defined as viewing personal success or failure as dependent on one's own behavior. A sample of 230 males who were sixteen to nineteen in 1967 and were not enrolled in school during either 1968 or 1975 was studied. The results support the notion that "external" teenagers can be expected to experience longer periods of unemployment in the future relative to "internals." In addition, though not entirely conclusive, there is evidence that I-E is an important determinant of black-white unemployment differentials, with externality being more "costly" to blacks than whites. (Author/CT)

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TEENAGE LOCUS OF CONTROL AND ADULT UNEMPLOYMENT

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Abstract

This study examines the relationship between locus of control and subsequent unemployment experience for a national probability sample of teenagers. Using multiple regression analysis to control for a variety of individual differences, the influence of "internal-external" attitudes held as a teenager on subsequent unemployment experience in the adult labor market is determined. The results support the notion that "externals" teenagers can be expected to experience longer periods of unemployment in the future relative to "internals." In addition, though not entirely conclusive there is evidence that I-E is an important determinant of black-white unemployment differentials.

TEENAGE LOCUS OF CONTROL AND ADULT UNEMPLOYMENT

The labor market problems of young people are well documented. Youth between the ages of 16 and 24 make up nearly one-half of all the unemployed.[1] With unemployment rates typically twice those of their white counterparts, the employment experience of young blacks is particularly discouraging. While there has been some attention given to the long-run effects of teenage labor market experience, most of the discussion has focused on skill inadequacies as a likely source of subsequent adult problems.[1] Recently, however, industrial psychologists and a growing number of economists have begun to turn their attention to the role of individual attitude and personality differences as an important element in the development of these pathologies. Following this path, this research will examine the role of teenage work attitudes as a predictor of future labor market problems.[2]

Although empirical work has considered the issue only tangentially, there is strong reason to believe that locus of control as suggested by Rotter (1972) should have an important influence on an individual's unemployment experience. While labor market conditions play an important role in determining the success of any job search, individual differences in effort and motivation should also be critical to explaining this experience. Work by Sheppard and Belitsky (1966) and Dyer (1973) suggests that both achievement motivation and job search intensity improve the probability of a successful job search. Clearly, in any <u>given</u> labor market where young people face similar job prospects, these sorts of individual differences should be of even greater importance. Because internals are more likely to view personal success or failure as dependent on their own behavior, this expectation should translate into more intensive job search during periods

of unemployment. The importance of this perceived link between effort and subsequent payoff is an integral part of "expectancy theory" (Porter and Lawler, 1968, and Vroom, 1964) which provides a conceptual underpinning for the expected relationship.

To the extent that a measure of locus of control allows us to estimate the role of personal initiative in minimizing the problem of unemployment, our general understanding of employment problems will be enhanced. Unfortunately, research in this area has not always incorporated these conceptual developments. Economists in general have been unfamiliar with available measures of such attitudinal variables while industrial psychologists have typically limited their analysis to organization-wide studies. Work by Andrisani and Nestel (1976) and Andrisani (1977) represents one of the few departures from this more traditional line of inquiry. Utilizing national probability samples, both studies focus on the influence of internal-external locus of control (I-E) on several dimensions of work experience.

However, the specific relationship between I-E and unemployment problems remains largely unknown. Andrisani (1977) limited his attention to the influence on hourly pay, annual earnings, and occupational level and provides no direct evidence of the effect of I-E on unemployment experience. While Andrisani observed that "externals" typically experienced lower quality work outcomes in a national sample of young men aged 18 to 28, the results imply that perhaps employment levels are not similarly affected. Using a multiple regression framework, Andrisani's results indicated that for both blacks and whites a unit increase in "externality" had a much larger negative effect on hourly pay than annual earnings. Since annual earnings is simply a function of hourly wage times annual employment levels in hours, days and

weeks worked, there is an indication that the effect of "externality" on unemployment is less serious than on hourly pay, if not in fact positive (pp. 318-319).

This anomoly is also apparent in the earlier work by Andrisani and Nestel (1976). Though the study is limited to a sample of middle-aged men and focuses on a wide variety of employment outcomes, the results indicate that externals were less likely to experience a spell of unemployment during the two-year period covered by the analysis. This relationship was not significant by conventional standards, but because it too raises the possibility of a negative relationship between externality and unemployment, it is useful to focus specifically on this issue in an attempt to clarify results which appear counter intuitive.

Finally, locus of control can also be used as a partial explanation for the dramatic differences in unemployment rates between blacks and whites. I-E could contribute to these racial differences either because blacks and whites had unequal levels of "externality," or because race served as a moderator variable in the relationship between I-E and unemployment. With respect to hourly pay, annual earnings and occupational attainment, Andrisani (1977) found little difference between races either in the mean levels of the I-E measure or the payoffs to "internality" (p. 325) in a national sample of young men. Whether such a relationship will hold for unemployment experience as well remains to be tested.

The purpose then of this study is to provide direct evidence that will address certain gaps in the literature as well as help resolve the seemingly anomolous relationship of locus of control and unemployment experience reported in prior research. The objectives of the study are two-fold. First,

for a nationwide sample of out-of-school teens combining both cross-sectional and longitudinal data, this research will estimate the influence of locus of control (I-E) on subsequent unemployment experience. Second, if such a relationship is established, we will compare the relative importance of racial differences in (1) the levels of internality-externality, and (2) the "returns" to those attitudes, as a partial explanation for subsequent black-white unemployment differentials.[4] Specifically, our focus will be on the nature of the relationship between internal-external control measured in the first years of labor market experience (17 to 20 years old) and subsequent unemployment during the initial years in the adult labor market seven years later. To the extent that such a relationship exists, this research will offer further support for the notion that public manpower and human resource programs should concentrate on attitudinal problems of the disadvantaged as well as hard skill deficiencies.

Method

Subjects

The data for this study are a subsample of the young men's cohort of the National Longitudinal Surveys (NLS).[5] The cohort is a national probability sample of young men who ranged in age from 14 to 24 during the initial interview year (1966). Subsequent personal and telephone interviews were conducted over the next 10 years by the U.S. Bureau of the Census. The sample for this study contains 230 males who were 16 to 19 in 1967, and were not enrolled in school during either 1967 or 1975. This particular subsample was chosen because it offers an opportunity to observe the effect

of internal-external control, measured in the early years of one's experience as the individual enters the adult labor market (1975) of the 25 and older age group. Moreover, by limiting the sample to teens out of school, we can focus on a group that is likely to be the relevant target population for public human resource programs.

Measures

The measure of internal-external control to be used in this study is an 11-item modified version of the now familiar Internal-External Control Scale developed by Rotter (1972). The abbreviated version was designed to include only those items which appeared to be more general, adult oriented and work related. After making a forced choice on an item the respondent was asked if the statement was "much closer or slightly closer" to his choice. The response was then scored from 1 to 4 with 1 representing "much closer" internal and 4 indicating "much closer" external.[6] For each individual then the potential score ranged from 11 to 44.[7]

The dependent variable (UE) is measured as the number of weeks of unemployment reported for an individual during 1975. Serving as control variables in Model 1 will be the following: (a) a continuous variable indicating highest grade completed in school; (b) marital status measured as a dichotomous variable assigned the value 1 if the individual was married in 1975, 0 otherwise; (c) labor market experience reflected by the number of years since the individual left formal schooling; (d) a continuous variable indicating the total number of months of occupational

training an individual received from 1967 to 1975; (e) a dichotomous variable taking the value of 1 if the individual lived in the South in 1975; 0 otherwise; (f) the area unemployment rate for the labor market in 1975; (g) a dichotomous variable taking the value of 1 if the individual experienced any teenage unemployment in 1967; 0 otherwise; (h) a continuous variable indicating the number of weeks of teenage unemployment experienced in 1967; and (i) a race variable taking the value of 1 if the respondent was white; 0 otherwise.

Analysis

By using multiple regression analysis, we can control for important individual differences such as skill, training, demographics, etc. which may be associated with both teenage work attitudes (I-E) and later unemployment experience. In addition, it is possible to control for teenage unemployment experience. If this variable were not included in the model, the relationship between I-E and subsequent unemployment would likely be overstated. This model makes it possible to ask the policy question relevant to the planners of public human resource programs: given one's teenage unemployment experience, to what extent do individual differences in locus of control affect subsequent labor market experience?

In order to accomplish the second phase of this study, a (RACE)*(I-E) interaction term must be added to the original model. With this expanded model, the total contribution of I-E to racial differences in (UE) can be estimated. For example, assume that the new model is,

$$UE = a_o + a_1\ I\text{-}E + a_2\ R * IE + \sum_{i=3}^{k} a_1\ X_i + e,$$

where X_i are the respective control variables. For simplicity assume that a_i and X_i are equal across racial groups. Now there are three ways in which I-E can contribute to racial differences in unemployment. The first would occur if race is not a moderator variable ($a_2 = 0$) and blacks simply had higher (more external) mean levels on I-E (model 1). In this case, other things equal, the I-E variable would generate a $(\bar{I\text{-}E}_B - \bar{I\text{-}E}_W)a_1$ racial difference in UE.

The second way that I-E might contribute to racial differences in UE would be if the structure of the relationship varies by race. That is, if race serves as a moderator variable with $a_2 < 0$. Then, even if $\bar{I\text{-}E}_B = \bar{I\text{-}E}_W$, unemployment differences will be generated because the "costs" of externality are greater for blacks. Thus a given level of externality increases UE by (a_1) for blacks, but only $(a_1 - a_2)$ for whites.

Finally, if racial differences exist in both the levels of I-E and the relationship between I-E and UE, there will be an additional change in UE equal to the product of those differences.[8]

Results and Discussion

Due to space limitations the results for the entire regression are reported in Appendix A. The regression coefficients for the I-E variable are presented in Table 1. Internal-External locus of control (I-E) proved to have a significant influence on unemployment levels at both a statistical and practical level. These estimates (model 1) suggest that a one unit increase in "externality" increases average annual unemployment by .25 weeks ($p = .05$). For the combined sample of blacks and whites, this effect would represent an increase of slightly more

than a 6 percent increase in unemployment above the average (4.09 weeks) reported for this group (Table 2). The practical significance of this effect is underscored when we consider that the sample standard deviation for I-E is 4.5 units. Thus a difference of one standard deviation in I-E between two individuals would represent an annual unemployment difference of 1.26 weeks or 30 percent of the mean (UE) level.

(Put Table 1 about here)

Turning to the influence of IE on racial differences in unemployment, first consider the effect of racial differences in the levels of I-E. For example, in Table 2, we see that blacks average 1.23 units higher on the I-E scale, a difference that is significant at the .05 level. Moreover, young black adults experienced approximately 2.6 weeks more unemployment during 1975 than did whites. While it is often difficult to assess meaningfully differences in scales such as I-E, using the results from Model 1, the 1.23 unit black-white differential can clearly be interpreted to represent a .34 week difference in annual unemployment, holding other individual differences constant. This .31 week effect represents nearly 12 percent of the black-white unemployment differential for that year (.31 ÷ 2.6). In sum, differences in I-E among black and white youth clearly have long run effects on subsequent labor market problems and at a level of magnitude that has implications for public manpower programs.

(Put Table 2 about here)

The estimates for the second phase of the study are reported under Model 2 in Table 1. Though the (RACE)*(I-E) interaction is not significant

at the .10 level, the sign of the variable suggests that externality is an attribute more heavily penalized among blacks than whites. While this interpretation is consistent with expectations of labor market discrimination, the converse (a more optimistic position) which suggests that increases in the level of internality has a greater positive payoff for blacks than whites is also true. This latter interpretation would be further basis for encouraging greater attention to the attitudinal and motivational aspects of manpower programs.

The fact that the R * (I-E) variable is insignificant at all but the most tolerant limits is particularly disturbing because of the magnitude of the effect. The coefficients suggest that blacks bear an unequal burden at any level of externality, and that for every unit increase in externality, the growth in (UE) is three times greater for blacks than whites. At these levels of magnitude, potential differential returns to I-E are much more important in explaining racial differences in UE than are racial differences in the level of the I-E itself. Unfortunately, in light of the statistical insignificance of this coefficient, the principal value of this estimate is to serve as an incentive for future research.[9]

Taken together the results reported in this research provide support for the notion that attitudinal and motivational differences among teenagers (at least as measured by the Rotter scale) are an important predictor of subsequent unemployment problems. At a minimum, black-white differences in the level of externality among teenagers accounted for about 12 percent of the racial difference in unemployment levels among young adults. Additionally, other inconclusive results suggest that a far more important source of black-white unemployment differentials may be due to externality being

more "costly" for blacks than whites. Clearly, while the growing interest in these kinds of issues among policy makers seems justified, additional research is required before the benefits of this particular shift in policy can be accurately assessed.

Table 1

Regression Coefficients on I-E Variables in Model 1 and Model 2 (with interaction) Representing the Independent Effect of I-E on Annual Unemployment Levels

	Regression Coefficient (standard error)
Model 1	
I-E	.25*
	(.13)
Model 2	
I-E	.48*
	(.24)
I-E * Race	-.32
	(.28)

*p = .05 (two tailed test)

Table 2

Overall and Black-White Descriptive Statistics
for Internal-External Control

	Combined Sample	Whites	Blacks
Internal-External Control			
Mean	23.67	23.23	24.46
Standard Deviation	4.50	4.71	3.98
Duration of Unemployment (1975)			
Mean	4.09	3.12	5.85
Standard Deviation	8.85	7.47	10.77
Sample Size	230	149	81

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Footnotes

1. See U.S. Department of Labor (1977), Tables A-19 and A-20.

2. See Becker and Hills (1978) for an analysis of the long-run effects of teen unemployment on wages.

3. See Cain (1976) for a review of this discussion among economists. Representative of the work by psychologists is Feldman (1974) and Goodman, et al. (1973).

4. The difference in "returns" is analogous to the concept of race as a moderator variable with respect to I-E and UE.

5. For a complete description of the National Longitudinal Surveys including sampling design and available variables see The National Longitudinal Survey's Handbook (1977).

6. More specifically for each question the individual chose a response that was either "internal" or "external." The respondent then indicated whether that choice was either "much closer" or "slightly closer" to his true opinion. Each question was scored 1 - 4 in the following manner: 1 - internal (much closer), 2 - internal (slightly closer), 3 - external (slightly closer), and 4 - external (much closer). With 11 questions the possible total score ranged from 11 - 44.

7. The correlation between the original and the abbreviated version was .69. For more information on the item analysis and a discussion of the pre-test see either Kohen (1973) or Valecha (1972).

8. Therefore the contribution of IE to the total racial difference in IE (ΔUE_{IE}) can be decomposed such that:

$$\Delta UE_{IE} = a_1 (\bar{I-E}_B - \bar{IE}_W) + (\bar{I-E}_{W=B}) (a_1 - a_2) + (\bar{I-E}_B - \bar{I-E}_W) (a_1 - a_2)$$

9. Note that in model 2 a unit increase in externality results in .48 more weeks in subsequent unemployment for blacks but only .11 weeks for whites.

Appendix A

	Model 1 Coefficients (stand. errors)	Model 2 Coefficients (stand. errors)	Mean Values All Variables (stand. errors)
Dependent Variable			
Weeks Unemployed, 1975	-	-	4.09 (8.85)
Independent Variables			
Rotter I-E	0.25* (0.13)	0.43* (0.24)	23.67 (4.50)
Rotter I-E, Race	-	-0.32 (0.28)	15.05 (11.75)
Weeks Unemployed, 1967	-0.91** (0.33)	-0.90** (0.33)	2.90 (6.80)
Weeks Unemployed, 1967 Squared Term	0.02* (0.008)	0.02* (0.008)	54.38 (232.0)
One or More Spells of Unemployment, 1967	6.16** (2.00)	6.34** (2.01)	0.33 (0.47)
Highest Grade Completed by 1975	-0.41 (0.31)	-0.35 (0.31)	10.75 (2.30)
Training, 1967-1975	-0.06 (0.06)	-0.06 (0.06)	5.52 (10.01)
Labor Force Experience (Years Since Last in School)	0.15 (0.30)	0.20 (0.30)	9.28 (2.24)
Race - White	-3.91* (1.29)	3.79 (6.95)	0.65 (0.48)
Married	-0.65 (1.25)	-0.66 (1.25)	0.69 (0.46)
Region - South	-4.46** (1.29)	-4.41** (1.29)	0.50 (0.50)
Local Unemployment Rate	-0.03 (0.02)	-0.03 (0.02)	88.56 (24.73)
Constant Term	9.08	2.34	
F Ratio	3.44	3.26	
Significant at p =	0.01	0.01	
$\bar{R}^2$	0.10	0.11	
S.E.E.	8.37	8.37	
N	230	230	

**Significant at p = .01
* Significant at p = .05 (two-tailed tests)

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The Center for Human Resource Research

The Center for Human Resource Research is a policy-oriented research unit based in the College of Administrative Science of The Ohio State University. Established in 1965, the Center is concerned with a wide range of contemporary problems associated with human resource development, conservation and utilization. The personnel include approximately twenty senior staff members drawn from the disciplines of economics, education, health sciences, industrial relations, management science, psychology, public administration, social work and sociology. This multidisciplinary team is supported by approximately 50 graduate research associates, full-time research assistants, computer programmers and other personnel.

The Center has acquired pre-eminence in the fields of labor market research and manpower planning. The National Longitudinal Surveys of Labor Force Behavior have been the responsibility of the Center since 1965 under continuing support from the United States Department of Labor. Staff have been called upon for human resource planning assistance throughout the world with major studies conducted in Bolivia, Ecuador and Venezuela, and recently the National Science Foundation requested a review of the state of the art in human resource planning. Senior personnel are also engaged in several other areas of research including collective bargaining and labor relations, evaluation and monitoring of the operation of government employment and training programs and the projection of health education and facility needs.

The Center for Human Resource Research has received over one million dollars annually from government agencies and private foundations to support its research in recent years. Providing support have been the U.S. Departments of Labor, State, and Health, Education and Welfare; Ohio's Health and Education Departments and Bureau of Employment Services; the Ohio cities of Columbus and Springfield; the Ohio AFL-CIO; and the George Gund Foundation. The breadth of research interests may be seen by examining a few of the present projects.

The largest of the current projects is the National Longitudinal Surveys of Labor Force Behavior. This project involves repeated interviews over a fifteen year period with four groups of the United States population: older men, middle-aged women, and young men and women. The data are collected for 20,000 individuals by the U.S. Bureau of the Census, and the Center is responsible for data analysis. To date dozens of research monographs and special reports have been prepared by the staff. Responsibilities also include the preparation and distribution of data tapes for public use. Beginning in 1979, an additional cohort of 12,000 young men and women between the ages of 14 and 21 will be studied on an annual basis for the following five years. Again the Center will provide analysis and public use tapes for this cohort.

The Quality of Working Life Project is another ongoing study operated in conjunction with the cities of Springfield and Columbus, in an attempt to improve both the productivity and the meaningfulness of work for public employees in these two municipalities. Center staff serve as third party advisors, as well as researchers, to explore new techniques for attaining management-worker cooperation.

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A third area of research in which the Center has been active is manpower planning both in the U.S. and in developing countries. A current project for the Ohio Advisory Council for Vocational Education seeks to identify and inventory the highly fragmented institutions and agencies responsible for supplying vocational and technical training in Ohio. These data will subsequently be integrated into a comprehensive model for forecasting the State's supply of vocational and technical skills.

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Senior staff also serve as consultants to many boards and commissions at the national and state level. Recent papers have been written for the Joint Economic Committee of Congress, The National Commission for Employment and Unemployment Statistics, The National Commission for Manpower Policy, The White House Conference on the Family, the Ohio Board of Regents, the Ohio Governor's Task Force on Health, and the Ohio Governor's Task Force on Welfare.

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